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Engineeringlab

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For: Engineeringlab

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```
; DNTMain.asm
; Copyright Xerox Corporation 1979
; Last modified December 5, 1980  7:57 PM by Boggs
; Last modified at CMU September 28, 1981 12:13 AM by Everhart
```

```
.TXTM B
```

```
.DUSR  SWAT = 77400
```

```
; OUTGOING
```

```
.BEXTZ  RANDOM, LOADRAM, ERROR, OsFinish
.BEXT   INITINT, DESTROYINT, FINDFREECHAN
.BEXTZ  EOM, ALTO2, VINT, pACT, pWW, pSAD, pDISPLAY
.BEXTZ  PEACO, PEAC1, PEAC2, PEAC3, PECY, PEPC, pIRET
.BEXTZ  pSBCTAB, pEBCTAB
```

```
; INCOMING
```

```
.BEXT   INITETHER, EtherBoot
.BEXT   RAMTEST, PRINTRAMTEST, INITRAMTEST
.BEXT   A1PBC, A1INIT, A1TMF, A1TMS, A1PEINT
.BEXT   A2PBC, A2INIT, A2TMF, A2TMS, A2PEINT
.BEXT   RESTORE, UNRESTORE
.BEXTZ  PMSG, PMSG1, POCT, PDEC, CHANGEBANK
.BEXT   SwatTrap, SwatInterrupt, RamImage
.BEXTZ  SOM, XMFLAG, RAMFLAG
```

```
.SREL
```

```
TIMERINT:  .TIMERINT
INITINT:   .INITINT
PEINT:     .PEINT
OsFinish:  .OsFinish
NOPARTRAP: .NOPARTRAP
```

```
.ZREL
```

```
VERSION:    0                ; -> VERSION TEXT
ERROR:      .ERROR
RANDOM:      .RANDOM
LOADRAM:    .LOADRAM
ALTO2:      0                ; NONZERO IF THIS IS AN ALTO2
DOSUMMARY:  0                ; TRUE IF IT IS TIME TO REPORT IN
DOSLOWTESTS: 0                ; TRUE IF IT IS TIME TO DO SLOW TESTS
VINT:       0                ; INCREMENTED BY VERT. INTERVAL INTERRUPT
EOM:        176777           ; END OF MEMORY

pBLANKDCB:  BLANKDCB         ; -> DCB TO KEEP SCREEN BLACK
pSHOWDCB:   SHOWDCB          ; -> DCB TO SHOW THE INNER WORKINGS

pACT:       453              ; -> INTERRUPTS ACTIVE
pWW:        452              ; -> INTERRUPT'S WAITING
pSAD:       621              ; -> SAD IN PARITY DUMP AREA
pDISPLAY:   420              ; -> DISPLAY LIST HEAD

pSBCTAB:    SBCTAB           ; -> START OF BAD CHIP TABLE
pEBCTAB:    EBCTAB           ; -> END OF BAD CHIP TABLE

C17:       17
```

```

.NREL
0 ; sacrificial word for BLDR to eat

-----
DMT: ; INITIALIZATION
-----
; by Craig Everhart, 28 September 1981
JSR xDMTx
.TXT "DMT of Diagnostic Memory Test*NAIto "
xDMTx: STA 3 VERSION
JSR CURSOR
0
1000 ; cursor bitmap begins here
1200
1200
1200
1200
3200
6200
14200
31200
1300
1140
1074
3000
2200
6300
34170

CURSOR: MOV 3 0 ; SRC-1
LDA 1 pCURMAPEND ; END DEST
LDA 3 M16D ; COUNT
BLT

LDA 0 @ppSwatTrap ; FILL TRAPVEC WITH CALLS TO DEBUGGER
LDA 1 pTRAPVECEND
LDA 3 M32D
BLKS

LDA 0 @ppNOPARTRAP
STA 0 @P532

LDA 0 TRAP ; SET TRAPS IN LOW CORE
LDA 1 C17
LDA 3 M16D
BLKS

MKZERO 0 0 ; ZERO TEST AREA
LDA 1 EOM
MOV 1 3
LDA 2 SOM
SUB 2 3 ; LENGTH OF TEST AREA-1
COM 3 3 ; -LENGTH OF TEST AREA
BLKS

LDA 1 pEBCTAB ; ZERO THE BAD CHIP TABLE
LDA 3 MLBCTAB
BLKS

; JSR @LOADRAM

VERS ; ACO[0-3] IS ENGINEERING NUMBER
CYCLE 4
LDA 1 C17
AND 1 0
JSR ENG
0 ; ALTO 1 MICROCODE VERSION 23 OR OLDER
0 ; ALTO 1 MICROCODE VERSION 24 OR NEWER
-1 ; ALTO 2 WITHOUT XM
-1 ; ALTO 2 WITH XM
0 ; DO EMULATING AN ALTO 1
-1 ; DORADO EMULATING AN ALTO 2 XM
ENG: ADD 0 3
LDA 0 0,3

```

```

STA 0 ALTO2

MKZERO 0 0
STA 0 @pACT          ; MASK OFF ALL INTERRUPT CHANNELS
EIR
STA 0 @pWW           ; IGNORE INTERRUPTS CAUSED UP TO NOW

LDA 3 pBLANKDCB      ; BLANKDCB KEEPS THE SCREEN BLACK
SKEVEN 3 3           ; FORCE DCB TO BE ON AN EVEN ADDRESS
INC 3 3
STA 3 pBLANKDCB
MKZERO 0 0
STA 0 0 3           ; LINK
STA 0 2 3           ; BIT MAP ADDR
INC 0 0
STA 0 3 3           ; SCAN LINE COUNT
LDA 0 C40000
STA 0.1 3           ; BLACK BACKGROUND, 0 WDS/SCAN LINE
STA 3 @pDISPLAY

LDA 3 pSHOWDCB       ; SHOWDCB SHOWS THE INNER WORKINGS OF DMT
SKEVEN 3 3           ; FORCE DCB TO BE ON AN EVEN ADDRESS
INC 3 3
STA 3 pSHOWDCB
MKZERO 0 0
STA 0 0 3           ; LINK
LDA 0 D38            ; 38 WORD/SL;
STA 0 1 3           ; HIGH RESOLUTION, WHITE BACKGROUND
LDA 0 SOM
SKEVEN 0 0
INC 0 0
STA 0 2 3           ; BIT MAP ADDR
LDA 0 D404
STA 0 3 3           ; SCAN LINE COUNT

LDA 0 ALTO2          ; INITIALIZE TEST MODULES
SNZ 0 0
JSRJI ppA1INIT
JSRII ppA2INIT
NOP

LDA 0 @ppPEINT       ; SET UP PARITY ERROR INTERRUPT ROUTINE
JSRII ppINITINT      ; MUST BE FIRST CALL ON INITINT
MOVR 0 0 SZR         ; DID WE GET CHANNEL 15?
SWAT                 ; NO. PROGRAM BUG

LDA 0 @ppTIMERINT    ; SET UP TIMER INTERRUPT
JSRII ppINITINT
STA 0 @pDSTART1

LDA 0 @ppSwatInterrupt ; SET UP SWAT INTERRUPT
JSRII ppINITINT
LDA 1 @pDSTART1
ADD 1 0
STA 0 @pDSTART1

JSRII ppINITETHER    ; START THE ETHERNET
JSRII ppINITRAMTEST  ; INITIALIZE THE RAM TEST

JMP LOOP             ; BEGIN MAIN LOOP

pTRAPVECEND:         567          ; END OF TRAP VECTOR
pCURMAPEND:           450          ; END OF CURSOR BITMAP
pDSTART1:             421          ; DISPLAY INTERRUPT MASK LOC

ppPEINT:              PEINT
ppINITINT:            INITINT
ppTIMERINT:           TIMERINT
ppA2INIT:             A2INIT
ppA1INIT:             A1INIT
ppINITRAMTEST:        INITRAMTEST
ppINITETHER:          INITETHER
ppCHANGEBANK:         CHANGEBANK
ppSwatTrap:           SwatTrap
ppSwatInterrupt:      SwatInterrupt
ppNOPARTRAP:          NOPARTRAP

```

```
P532:      532      ; PARAMETERLESS OPCODES TRAP VIA HERE
TRAP:      SWAT
C24400:    24400
C40000:    40000
MLBCTAB:   -LBCTAB ; -LENGTH OF BAD CHIP TABLE
D38:       38.
D404:      404.
M32D:      -32.
M16D:      -16.

BLANKDCB:  .BLK 5
SHOWDCB:   .BLK 5
```

```

LOOP:                                ; TOP OF THE MAIN LOOP
LDA 2 CURSORFLAG
SNZ 2 2                               ; STEP IT OR FLING IT?
JMP FLING

JSR @RANDOM
MOVL 0 0 SNC                         ; SHALL WE STEP X?
JMP DOY                               ; NO
LDA 1 @pCURSORX
LDA 2 M16D
MOVL 0 0 SNC                         ; WHICH DIRECTION?
NEG 2 2                               ; THE OTHER DIRECTION
ADD 2 1
SP 1 1                               ; IS IT TOO SMALL?
LDA 1 CURSORXMAX                     ; YES. SET TO BIGGEST VALUE
LDA 0 CURSORXMAX
SLE 1 0                               ; IS IT TOO BIG?
MKZERO 1 1                           ; YES. SET TO SMALLEST VALUE
STA 1 @pCURSORX

DOY: JSR @RANDOM
MOVL 0 0 SNC                         ; SHALL WE STEP Y?
JMP KBD                               ; NO
LDA 1 @pCURSORY
LDA 2 M16D
MOVL 0 0 SNC                         ; WHICH DIRECTION?
NEG 2 2                               ; THE OTHER DIRECTION
ADD 2 1
SP 1 1                               ; IS IT TOO SMALL?
LDA 1 CURSORYMAX                     ; YES. SET TO BIGGEST VALUE
LDA 0 CURSORYMAX
SLE 1 0                               ; IS IT TOO BIG?
MKZERO 1 1                           ; YES. SET TO SMALLEST VALUE
STA 1 @pCURSORY
JMP KBD

FLING: JSR @RANDOM                    ; NEW X COORDINATE
MOV 0 1
MKZERO 0 0
LDA 2 CURSORXMAX                     ; SCALE IT
DIV
NOP
STA 0 @pCURSORX

JSR @RANDOM                            ; NEW Y COORDINATE
MOV 0 1
MKZERO 0 0
LDA 2 CURSORYMAX                     ; SCALE IT
DIV
NOP
STA 0 @pCURSORY

KBD: LDA 0 pBLANKDCB
LDA 1 @pKBDAD1
LDA 2 BLANKTOPKEY
AND# 2 1 SNR                         ; SHOW THE INNER WORKINGS?
LDA 0 pSHOWDCB                       ; YES
STA 0 @pDISPLAY

LDA 0 @pKBDAD1                       ; CHECK KEYBOARD
LDA 1 SKEY
AND# 0 1 SNR                         ; "S" KEY?
JSR PRINTSUM                         ; PRINT ERROR SUMMARY
LDA 0 @pKBDAD1
LDA 1 BLANKMIDKEY
AND# 0 1 SZR                         ; "BLANK MIDDLE" KEY?
JMP L1                               ; NO
LDA 1 CURSORFLAG
COM 1 1
STA 1 CURSORFLAG

L1: LDA 0 ALT02                       ; TEST MEMORY FAST
SNZ 0 0

```

```
    JSRII ppA1TMF
    JSRII ppA2TMF
    NOP
    ISZ BLOCKS
    NOP

    LDA 0 DOSUMMARY
    SZ 0 0          ; TIME TO REPORT TEST RESULTS?
    JSR PRINTSUM    ; YES
    MKZERO 0 0
    STA 0 DOSUMMARY

    LDA 0 DOSLOWTESTS
    SNZ 0 0
    JMP LOOP
    MKZERO 0 0
    STA 0 DOSLOWTESTS
    LDA 0 ALTO2      ; TEST MEMORY SLOW
    SNZ 0 0
    JSRII ppA1TMS
    JSRII ppA2TMS
    NOP
    JSRII ppRAMTEST  ; RAM TEST IS SLOW
    JMP LOOP

C77:      77
BLOCKS:   0          ; TOTAL TESTS MOD 2+16

CURSORXMAX: 1100      ; MAX CURSOR X VALUE
CURSORXMAX: 1400      ; MAX CURSOR Y VALUE
pCURSORX:  426        ; CURSOR X LOC
pCURSORX:  427        ; CURSOR Y LOC
CURSORFLAG: -1        ; TRUE => WALK, FALSE => FLING

ppA1TMF:   A1TMF
ppA2TMF:   A2TMF
ppA1TMS:   A1TMS
ppA2TMS:   A2TMS

ppRAMTEST: RANTEST
```

 PRINTSUM:

```

      STA 3 PSRET

      JSR II ppRESTORE          ; SET UP DISPLAY
      LDA 0 VERSION
      STA 0 PS0
      JSR @PMSG
PS0:   0

      JSR @PMSG1
      .TXT "I"
      LDA 0 ALTO2
      SNZ 0 0
      JMP PS1
      JSR @PMSG1
      .TXT "I"
PS1:   LDA 1 @pEHLOC
      JSR @POCT

      LDA 0 XMFLAG
      SZ 0 0
      JMP PS2
      JSR @PMSG1
      .TXT ", 64K"
      JMP PS6
PS2:   MKONE 1 1
      SE 0 1
      JMP PS3
      JSR @PMSG1
      .TXT ", XM 64K"
      JMP PS6
PS3:   INC 1 1
      SE 0 1
      JMP PS4
      JSR @PMSG1
      .TXT ", XM 128K"
      JMP PS6
PS4:   INC 1 1
      SE 0 1
      JMP PS5
      JSR @PMSG1
      .TXT ", XM 192K"
      JMP PS6
PS5:   JSR @PMSG1
      .TXT ", XM 256K"

PS6:   LDA 0 RAMFLAG
      SZ 0 0
      JMP PS7
      JSR @PMSG1
      .TXT ", No Ram"
      JMP PS9

pKBAD1: 177035          ; KEYBOARD WORD POINTER
SKEY:   1B4            ; THE BIT FOR THE KEY "S"
BLANKTOPKEY: 1         ; THE BIT FOR THE KEY "BLANK TOP"
BLANKMIDKEY: 2         ; THE BIT FOR THE KEY "BLANK MIDDLE"

PSRET:  0
pEHLOC: 610           ; ETHER HOST LOC
BMASK:  14
pBANKREG0: 177740

ppRESTORE: RESTORE
ppUNRESTORE: UNRESTORE
ppPRINTRAMTEST: PRINTRAMTEST
ppA1PBC: A1PBC
ppA2PBC: A2PBC

```

```
PS7:  MKONE 1 1
      SE 0 1
      JMP PS8
      JSR @PMSG1
      .TXT ", 1K Ram"
      JMP PS9
PS8:  JSR @PMSG1
      .TXT ", 3K Ram"

PS9:  JSR @PMSG1
      .TXT "*NPass "
      LDA 1 BLOCKS
      JSR @PDEC
      JSR @PMSG1
      .TXT ", testing "

      LDA 1 SOM
      JSR @POCT
      JSR @PMSG1
      .TXT " to "

      LDA 1 EOM
      JSR @POCT
      LDA 0 XMFLAG
      SNZ 0 0
      JMP PS10
      JSR @PMSG1
      .TXT " in bank "
      LDA 1 @pBANKREG0
      LDA 0 BMASK
      ANDZR 0 1
      MOVZR 1 1
      JSR @PDEC
PS10: JSR @PMSG1
      .TXT "*N"

      LDA 1 SOFTPEC
      SNZ 1 1
      JMP PS11
      JSR @PDEC
      JSR @PMSG1
      .TXT " PEs apparently caused by software*N"

PS11: LDA 0 ALT02
      SNZ 0 0 ; PRINT BAD CHIPS, IF ANY
      JSRII ppA1PBC
      JSRII ppA2PBC
      NOP
      JSRII ppPRINTRAMTEST

      LDA 1 SKEY
      LDA 0 @pKBAD1
      AND 1 0 SNR ; "S" KEY STILL DOWN?
      JMP .-2 ; YES. LOOP
      JSRII ppUNRESTORE ; RELEASE DISPLAY SPACE
      JMP @PSRET
```

```
-----  
; INITINT: ; INITIALIZE INTERRUPT CHANNEL  
-----
```

```
; ACCEPTS IN AC0/ INTERRUPT HANDLER ADDRESS  
; RETURNS IN AC0/ CHANNEL BIT
```

```
        STA 3 IIRET  
        MOV 0 3  
  
        MKONE 0 0  
        LDA 2 pINTVEC  
        LDA 1 @pACT  
II1:    AND# 0 1 SNR      ; CHANNEL AVAILABLE?  
        JMP II2          ; YES  
        MOVL 0 0 SZC     ; CHANNEL BIT  
        SWAT            ; NO CHANNELS AVAILABLE  
        INC 2 2          ; INTVEC  
        JMP II1  
  
II2:    STA 3 0 2        ; INSTALL HANDLER IN INTVEC  
        ADD 0 1  
        STA 1 @pACT      ; TURN ON CHANNEL  
  
        JMP @IIRET  
  
IIRET:      0  
pINTVEC:    501
```

```

-----
; PEINT:                                     ; PARITY ERROR INTERRUPT ROUTINE
-----
        STA 0 PEAC0                         ; SAVE MACHINE STATE
        STA 1 PEAC1
        STA 2 PEAC2
        STA 3 PEAC3
        MOVR 3 3
        STA 3 PECY
        LDA 1 @pPCLOC
        STA 1 PEPC

; DECIDE WHETHER IT WAS A REAL PE (I.E. HARDWARE GENERATED)
; OR WHETHER IT WAS CAUSED BY SOFTWARE (I.E. A BUG)
; IF IT WAS A REAL PARITY ERROR, LOCATIONS 614-621 WILL BE NONZERO

        LDA 2 pDCBR
        LDA 1 M6
PE2:    LDA 0 0 2                           ; PARITY R-REGISTER
        SZ 0 0                             ; BEING ZERO IS SUSPICIOUS
        JMP PE1                             ; NON-ZERO MEANS THE PE WAS REAL
        INC 2 2
        INC 1 1 SZR                         ; HAVE WE LOOKED AT ALL OF THEM?
        JMP PE2                             ; NO
        ISZ SOFTPEC                         ; SOFTWARE BUG
        JMP IRET
        DSZ SOFTPEC                         ; CANT SKIP
        JMP IRET

PE1:    LDA 0 @pACT                         ; DISABLE PARITY INTERRUPTS
        MOVR 0 0
        MOVZL 0 0
        STA 0 @pACT
        EIR                                ; BUT ALLOW OTHER INTERRUPTS

        LDA 0 ALT02
        SNZ 0 0                             ; CALL ERROR ANALYZER
        JSRII ppA1PEINT
        JSRII ppA2PEINT
        NOP

; COME HERE TO DISMISS THE PARITY INTERRUPT

IRET:   DIR
        LDA 0 @pWW                         ; CLEAR PARITY WAKEUPS WAITING
        MOVR 0 0
        MOVZL 0 0
        SFA 0 @pWW
        LDA 0 @pACT                       ; ENABLE PARITY INTERRUPTS
        MOVR 0 0
        MOVOL 0 0
        STA 0 @pACT

; ZERO THE PARITY ERROR DUMP AREA. IF IT IS STILL ZERO ON THE
; NEXT PE INTERRUPT, THEN IT WAS CAUSED BY A SOFTWARE BUG.

        MKZERO 0 0
        LDA 1 pSAD
        LDA 3 M6
        BLKS

        LDA 0 PEPC                         ; RESTORE MACHINE STATE
        STA 0 @pPCLOC
        LDA 0 PECY
        MOVL 0 0
        LDA 3 PEAC3
        LDA 2 PEAC2
        LDA 1 PEAC1
        LDA 0 PEAC0
        BRI

pPCLOC: 500                                ; -> INTERRUPT PC
pDCBR:  614                                ; -> PARITY DUMP AREA
ppA1PEINT: A1PEINT
ppA2PEINT: A2PEINT

```

M6: -6
SOFTPEC: 0

.ZREL

; MACHINE STATE SAVED HERE ON PARITY INTERRUPT

| | | |
|--------|---|---------|
| PEAC0: | 0 | ; AC0 |
| PEAC1: | 0 | ; AC1 |
| PEAC2: | 0 | ; AC2 |
| PEAC3: | 0 | ; AC3 |
| PECY: | 0 | ; CARRY |
| PEPC: | 0 | ; PC |

pIRET: IRET ;--> CODE TO DISMISS PARITY INTERRUPT

.NREL

```

-----
TIMERINT:                                ; VERTICAL FIELD INTERRUPT
-----
    STA 0 TSO
    STA 1 TS1
    STA 2 TS2
    STA 3 TS3
    MOVL 0 0
    STA 0 TC

    ISZ VINT                                ; USED BY ALT01 DTEST
    NOP

; THIS CODE DECIDES WHEN TO BROADCAST A SUMMARY OF THE TEST RESULTS.
; IT GENERATES ITS FIRST SUMMARY AFTER 1 MINUTE, THEN EVERY 128 MINUTES.
; IF AN ERROR IS REPORTED, THEN IT IMMEDIATELY GENERATES A SUMMARY,
; THEN ANOTHER AFTER 1 MINUTE, THEN 2 MINUTES LATER,
; THEN 4 MINUTES AFTER THAT, ... UP TO A MAX OF 128 MINUTES.
; WHEN IT REACHES 128, IT HOLDS THERE GENERATING REPORTS EVERY 128
; MINUTES THEREAFTER.

    DSZ SECOND
    JMP TI1
    LDA 0 D60                                ; SECOND COUNTER UNDERFLOWED
    STA 0 SECOND

; DOS AND DORADOS RUN DMT FOR 60 MINUTES THEN POWER THEMSELVES OFF
    DSZ POWERTIME
    JMP TI3
    VERS                                ; AC0[0-3] IS ENGINEERING NUMBER
    CYCLE 4
    LDA 1 C17
    AND 1 0
    LDA 1 C5
    SNE 0 1                                ; SKIP UNLESS DORADO
    61034                                ; POWER OFF CPU: MAY TRAP

TI3:    DSZ MINUTE
        JMP TI1
        LDA 0 D60                                ; MINUTE COUNTER UNDERFLOWED
        STA 0 MINUTE

        DSZ SLOWTIMER
        JMP TI2
        LDA 0 SLOWINTERVAL
        STA 0 SLOWTIMER
        STA 0 DOSLOWTESTS

TI2:    DSZ PEEKTIMER
        JMP TI1
        LDA 0 PEEKINTERVAL                    ; TIME TO REPORT TEST RESULTS
        MOVZL 0 0                            ; AND GENERATE A NEW TIME
        LDA 1 PEEKLIMIT
        SGTU 1 0                                ; LIMIT > NEW INTERVAL?
        MOV 1 0                                ; NO. FORCE NEW INTERVAL = LIMIT
        STA 0 PEEKINTERVAL
        STA 0 PEEKTIMER
        STA 0 DOSUMMARY

TI1:    LDA 0 TC
        MOVR 0 0
        LDA 3 TS3
        LDA 2 TS2
        LDA 1 TS1
        LDA 0 TSO
        BRI

; CALLED BY ERROR LOGGING ROUTINES TO NOTIFY THE TIMER THAT AN ERROR
; HAS OCCURRED AND IT SHOULD START GENERATING FREQUENT REPORTS.
.ERROR: LDA 0 FIRST
        SZ 0 0
        JMP 0,3                                ; NOT FIRST ERROR WE'VE SEEN
        MKONE 0 0
        STA 0 PEEKINTERVAL                    ; GENERATE FREQUENT REPORTS FOR A WHILE
        STA 0 PEEKTIMER                        ; GENERATE THE FIRST ONE 16 MS FROM NOW

```

```

        STA 0 SECOND
        STA 0 MINUTE
        STA 0 FIRST      ; REMEMBER THAT WE'VE SEEN AN ERROR
        JMP 0,3

FIRST:   0                ; ZERO IF HAVEN'T SEEN ANY ERRORS
C5:      5

TS0:     0
TS1:     0
TS2:     0
TS3:     0
TC:      0

D60:     60.
SECOND:  60.
MINUTE:  60.

PEEKTIMER: 1                ; time to next peek report
PEEKINTERVAL: 128.          ; minutes between peek reports
PEEKLIMIT: 128.             ; max interval in minutes

SLOWTIMER: 1                ; time to next slow test
SLOWINTERVAL: 2              ; minutes between slow tests

;-----
;NOPARTRAP:                  ; unimpl nopar opcodes trap here
;-----
        STA 3 TRAPAC3
        STA 0 TRAPAC0
        LDA 3 @.TRAPPC
        STA 3 NPT
        LDA 0 -1,3
        LDA 3 PWRINS
        SE 0,3
        77400
        LDA 0 TRAPAC0
        LDA 3 TRAPAC3
        JMP @.+1
NPT:     0

TRAPAC3: 0
TRAPAC0: 0
.TRAPPC: 527
POWERTIME: 3600.             ; 60 X 60 = 60 minutes
C4:      4
PWRINS:  61034
```

; .LOADRAM:

```
      STA 3 LRRET
      MKZERO 1 1      ; RAM ADDRESS
      LDA 2 @pRAMIMAGE ; MICROINSTRUCTION TABLE ADDRESS
      LDA 0 C400
      ADD 0 2          ; SKIP THE CONSTANTS

LR3:   LDA 0 0 2      ; HIGH HALF
      INC 2 2          ; INSTRUCTION TABLE ADDRESS
      LDA 3 0 2      ; LOW HALF
      INC 2 2          ; INSTRUCTION TABLE ADDRESS
      61012           ; WRITE INTO RAM
      INC 1 1          ; RAM ADDRESS
      DSZ LRCNT        ; DONE?
      JMP LR3          ; NO

      LDA 1 USTART    ; STARTING ADDRESS
      61010           ; CONTINUE EMULATOR IN RAM
      JMP @LRRET

LRRET:      0
LRCNT:      1024.      ; # OF 32 BIT MICROINSTRUCTIONS
C400:       400
USTART:     20         ; EMULATOR STARTING ADDRESS
pRAMIMAGE:  RamImage
```

```
-----
RANDOM:                                ; AC0 ← RANDOM #.  PRESERVES AC2
-----
```

```
    STA 3 RANRET
    LDA 0 IRAN
    INC 0 0
    LDA 3 C20D
    SLTU 0 3
    SUB 0 0
    STA 0 IRAN
    LDA 1 C3
    ADD 0 1
    SLTU 1 3
    SUB 3 1
    LDA 3 PRAN
    ADD 0 3
    LDA 0 0 3
    LDA 3 PRAN
    ADD 1 3
    LDA 1 0 3
    ADD 1 0
    STA 0 0 3
    JMP0 RANRET
```

```
C3:      3
C20D:    20.
IRAN:    16.
PRAN:    XPRAN
RANRET:  0
```

```
.SREL
```

```
XPRAN:  30200.
        27432.
        62096.
        39855.
        17884.
        58726.
        55595.
        20904.
        28164.
        27447.
        34709.
        35231.
        33770.
        31508.
        40689.
        1411.
        20373.
        3422.
        62938.
        40035.
```

```
.NREL
```

```
-----
.OsFinish:                                ; <Left-Shift> <Swat>
-----
```

```
    MKZERO 0 0                        ; BOOT FROM NET
    JSR @CHANGE BANK                  ; FLIP BACK INTO BANK 0
    LDA 0 bfn
    JSR II .EtherBoot
    1
```

```
.EtherBoot:    EtherBoot
bfn:           10                        ; NetExec
```

```
-----
; DMT1Test and DMT2Test share a common 'bad chip table'.
-----
```

```
LBCTAB = 17.*8.*8.                    ; 17 bits * 8 rows/board * 8 boards
SBCTAB: .BLK LBCTAB
EBCTAB = .-1
```

```
.END
```



```
; by Debbie Bernsen
JSR Palm
.TXT "DMT of Palm Sunday, Alto"
Palm: STA 3 VERSION
JSR CURSOR
0 ; padding -- not part of cursor
33154
75736
46662
6660
63764
177777
103741
101701
1700
1700
1700
1700
1700
1700
1700
1700

; by Boggs
JSR Fool
.TXT "DMT of April Fool's Day, Alto"
Fool: STA 3 VERSION
JSR CURSOR
0
.blk 16. ; uninitialized => zeros

JSR Heart
.TXT "DMT of Valentine's Day, Alto"
Heart: STA 3 VERSION
JSR CURSOR
0 ; padding -- not part of cursor
0
36074
77176
-1
-1
-1
-1
-1
77776
77776
37774
37774
17770
7760
3740
1700
600

; by Karen Kolling
JSR Sham
.TXT "DMT of St. Patrick's Day, Alto"
Sham: STA 3 VERSION
JSR CURSOR
0 ; padding -- not part of cursor
1100
3740
7760
7760
7760
3740
33754
77776
177777
77776
77776
177777
76676
30614
600
600
```

```
JSR Ein
.TXT "DMT of Einstein's 100th Birthday, Alto"
Ein: STA 3 VERSION
JSR CURSOR
0
17000
10000
10170
17000
10170
10000
17000
17
1
4
76750
52417
52400
52400
52400
42740
```

```
JSR SB
.TXT "DMT of the Softball season, Alto"
SB: STA 3 VERSION
JSR CURSOR
0
001700
007760
017770
027764
073756
073756
175737
175737
175737
175737
073756
073756
027764
017770
007760
001700
```

```
JSR Egg
.TXT "DMT of Easter, Alto"
Egg: STA 3 VERSION
JSR CURSOR
0
0
0
7740
32370
62354
44716
144731
144733
144733
144731
44716
62354
32370
7740
0
0
```

```
JSR Bun1
.TXT "DMT of Easter, Alto"
Bun1: STA 3 VERSION
JSR CURSOR
0
0
20002
70007
74017
```

```
76037
47071
1540
700
1740
3760
7270
7570
3260
1540
700
700

JSR Bun2
.TXT "DMT of Easter, Alto"
Bun2: STA 3 VERSION
JSR CURSOR
0
0
42
167
167
167
167
66
34
3476
7675
17777
57777
177776
177774
177777
57777

JSR Cinco
.TXT "DMT of Cinco de Mayo, Alto"
Cinco: STA 3 VERSION
JSR CURSOR
0
0
77776
74052
74466
75252
74466
75252
74066
77776
40000
56034
50020
56334
41002
56034
0

JSR MayDay
.TXT "DMT of May day, Alto"
MayDay: STA 3 VERSION
JSR CURSOR
0
160
7610
10204
30212
50021
104001
40201
40706
61741
110701
100211
100006
104002
70102
```

4136
7740

JSR Domin
.TXT "DMT of Dominion Day, Alto"
Domin: STA 3 VERSION
JSR CURSOR
0
400
1600
1600
103702
143706
163716
167756
177776
177776
177776
177776
77774
37770
7740
400
400

JSR Domin
.TXT "DMT of Dominion Day, Alto"
Domin: STA 3 VERSION
JSR CURSOR
0
600
1700
3740
7760
7760
177777
177777
177777
177777
77776
37774
77776
37774
17770
6660
600

; by Dan Bobrow

JSR Mem
.TXT "DMT of Memorial Day, Alto"
Mem: STA 3 VERSION
JSR CURSOR
0
0
37700
30400
30400
30400
30400
37770
77774
177776
177777
77776
36074
36074
14030
0
0

JSR Mem
.TXT "DMT of Memorial Day, Alto"
Mem: STA 3 VERSION
JSR CURSOR
0
146314

146314
31463
31463
146314
146314
31463
31463
0
37774
37774
4620
73756
167767
174037
167767

JSR Flag
Flag: .TXT "DMT of Flag Day, Alto"
STA 3 VERSION
JSR CURSOR
0
53437
125360
52417
125370
52407
125374
53603
176176
7701
174077
3740
176037
1760
177017
770
177400

JSR Flag
Flag: .TXT "DMT of Flag Day, Alto"
STA 3 VERSION
JSR CURSOR
0
100000
134002
153636
165362
53016
67363
30415
23173
34506
11714
12370
10000
14000
4000
4000
6000

JSR Bell
Bell: .TXT "DMT of Independence Day, Alto"
STA 3 VERSION
JSR CURSOR
0
167767
177777
177777
167767
163747
17770
17770
37774
37774
37774
37774

37734
37754
77756
177767
7000

JSR Mom
Mom: .TXT "DMT of Mother's Day, Alto"
STA 3 VERSION
JSR CURSOR
0
105721
155133
125125
125125
125125
105121
105121
105121
105121
105121
105121
105121
105121
105121
105121

JSR Mom
Mom: .TXT "DMT of Mother's Day, Alto"
STA 3 VERSION
JSR CURSOR
0
6720
32554
77766
54016
170013
120006
161543
42022
140001
140201
40002
41042
20704
10010
4020
2040

JSR Norges
Norges: .TXT "DMT of Norges Nasjonaldag, Alto"
STA 3 VERSION
JSR CURSOR
0
171777
171777
171777
171777
0
0
171777
171777
171777
171777
100000
102725
102525
102727
102521
102721

JSR NY
NY: .TXT "DMT of 'I love NY' week 1979, Alto"
STA 3 VERSION
JSR CURSOR

```
0
77543
4167
4177
4076
4034
4010
77400
0
60501
60442
50424
44410
42410
41410
41410
0

JSR POP
.TXT "DMT of Father's Day, Alto"
POP: STA 3 VERSION
JSR CURSOR
0
37
3
5
7611
30131
40020
154620
114310
101010
101010
103410
110110
44220
43420
30140
7600

JSR VES
.TXT "DMT of the 1900th anniversary of Vesuvius' explosion, Alto"
VES: STA 3 VERSION
JSR CURSOR
0
500
5220
12640
24714
2620
5612
1304
25551
103740
3764
27760
7772
117770
37774
77776
177777

JSR SAT1
.TXT "DMT of the Pioneer 11 Saturn encounter, Alto"
SAT1: STA 3 VERSION
JSR CURSOR
0
3
17
1322
7666
15674
17570
27364
36764
31754
```

27734
17670
37550
46360
55700
170000
140000

JSR SAT2

.TXT "DMT of the Pioneer 11 Saturn encounter, Alto"

SAT2: STA 3 VERSION

JSR CURSOR

0
3
17
1722
7566
17354
16730
37664
37564
37354
36734
15670
33550
46360
55700
170000
140000

; by Rich Pasco, submitted 10 Sept 79

JSR HALLOW

.TXT "DMT of Halloween, Alto"

HALLOW: STA 3 VERSION

JSR CURSOR

0
300
600
600
16660
17774
77776
71717
175757
177177
177577
177777
71746
74016
37274
7760
0

; by Brodie, submitted 6 Sept 79

JSR ESCHER

.TXT "DMT of the S.F. M.C. Escher exhibition, Alto"

ESCHER: STA 3 VERSION

JSR CURSOR

0
200
500
1100
2220
4450
11110
22222
31445
24511
22222
11044
4510
2220
1240
700
200

; by (Bill) Stevenson.WBST, submitted 6 Sept 79

```
JSR Trek
.TXT "DMT of the 13th anniversary of Star Trek, Alto"
Trek: STA 3 VERSION
JSR CURSOR
0
167116
102252
62354
162252
0
167352
45214
46314
45352
0
177470
1174
7774
7774
1174
177470
```

; by Rich Brodie, submitted 18 Sept 79

```
JSR SunSpot
.TXT "DMT of the 280-year Sun spot maximum, Alto"
SunSpot: STA 3 VERSION
JSR CURSOR
0
1000
404
40430
31740
7363
7574
134774
57734
17374
14772
56771
127660
3750
4610
4204
10400
```

; by Dan Swinehart, submitted 19 October 79

```
JSR SU
.TXT "Stanford University DMT, Alto"
SU: STA 3 VERSION
JSR CURSOR
0
1700
7760
16070
34634
71616
62706
144643
141623
142703
144643
61606
72716
34674
16670
7760
1700
```

; by Mike Schroeder, submitted 19 October 79

```
JSR MIT
.TXT "Massachusetts Institute of Technology DMT, Alto"
MIT: STA 3 VERSION
JSR CURSOR
0
```

0
160340
60300
50500
50500
45100
45100
42100
162340
0
0
0
0
0
0
0

; by Roy Levin, submitted 19 October 79

JSR CMU
.TXT "Carnegie-Mellon University DMT, Alto"
CMU: STA 3 VERSION
JSR CURSOR
0
401
176576
102506
103712
100422
100742
161556
22650
177777
25510
166616
107402
110402
123702
142502
176576

; by Wally Engle, submitted 19 November 79

JSR Turkey
.TXT "DMT of Thanksgiving, Alto"
Turkey: STA 3 VERSION
JSR CURSOR
0
0
41044
22102
41044
22100
40014
21726
46150
10230
26224
51346
50403
177777
60006
37774
0

; by Wally Engle, submitted 18 December 79

JSR Tree
.TXT "DMT of Christmas, Alto"
Tree: STA 3 VERSION
JSR CURSOR
0
604
616
1337
1716
2644
6560
5720

17250
27730
35374
67666
75356
153665
177377
1700
1700

; by Jerry Morrison, submitted 14 December 1979

JSR Fire
Fire: .TXT "DMT of New Year's Day, Alto"
STA 3 VERSION
JSR CURSOR
0
1042
10125
40045
1125
24125
1042
50000
2760
10010
4
4
174444
171150
162360
144740
111740

; by Rudi Sherry, submitted 20 December 1979

JSR Hanukah
Hanukah: .TXT "DMT of Hanukah, Alto"
STA 3 VERSION
JSR CURSOR
0
100402
120412
125652
125652
125652
125652
125652
125652
75274
7740
400
1600
1600
3700
7710
0

; by Rich Hoffarth, submitted 28 December 1979

JSR Champagne
Champagne: .TXT "DMT of New Year's Day, Alto"
STA 3 VERSION
JSR CURSOR
0
140
140
14014
14614
600
0
37774
17770
7760
3740
1700
600
600
600

600
7760

; by Eric Rawson, submitted 2 Jan 1980

JSR Ski
.TXT "DMT of the 1980 ski season, Alto"
Ski: STA 3 VERSION
JSR CURSOR
0
704
702
205
1770
22700
34700
20702
20705
20512
20524
20250
70120
20240
500
3200
1400

; by Pettit, submitted 22 Jan 1980

JSR GW
.TXT "DMT of George Washington's birthday, Alto"
GW: STA 3 VERSION
JSR CURSOR
0
6760
15010
65764
73772
33772
164143
122453
167673
3432
13772
13430
15760
46742
102001
3160
660

; by R. Lyon, submitted 1 Feb 80

JSR GHog
.TXT "DMT of Ground Hog's day, Alto"
GHog: STA 3 VERSION
JSR CURSOR
0
740
7030
70004
143002
165462
163011
40011
40021
30401
27002
10002
4002
2001
5001
5001
104011

; by S. Weyer, submitted 1 Apr 80

JSR CENSUS
.TXT "DMT of the 1980 U.S. Census, Alto"
CENSUS: STA 3 VERSION

JSR CURSOR

0
20406
61211
20201
20207
20201
20411
71707
0
20202
20202
70707
125252
20202
50505
50505
0

; by D. Curry, submitted April 80

JSR BUZZ

.TXT "DMT - Buzzards return to Hinkley Ohio - Alto"

BUZZ: STA 3 VERSION

JSR CURSOR

0
16000
37000
37034
77426
77637
77671
77760
177340
176000
176000
176000
176000
166000
166000
42000
5000

; by K. Kolling, submitted May 6, 1980

JSR Paw

.TXT "DMT of 'Be Kind to Animals Week', Alto"

Paw: STA 3 VERSION

JSR CURSOR

0
600
1700
1700
60606
170017
170017
61706
7760
7760
17770
17770
17770
17770
7760
7760
1700

; by Capps.wbst, submitted 9 May 80

JSR Astoria

.TXT "DMT - First Xerographic print 22 Oct 38 - Alto"

Astoria: STA 3 VERSION

JSR CURSOR

0
47356
127112
161112
127116
0

7220
5250
6270
5250
0
0
67356
25052
27156
21052
21356

; by CParker.wbst, submitted 9 June 80

jsr OuterSpace
.TXT "DMT of Outer Space Week, Alto"
OuterSpace:STA 3 VERSION
JSR CURSOR

0
7400
14600
30340
60074
40006
40002
140002
100002
100002
100006
140014
43410
66670
34340
0
0

; by Norm Cox (dlos), submitted 29 May 80

jsr OPD
.TXT "'OPIE' - 1st anniversary of OPD, by Norm Cox*NAItto"
OPD: STA 3 VERSION
JSR CURSOR

0
60000
70340
70160
74060
34036
36034
16020
6060
3740
3700
1600
3000
1000
400
200
1740

; by Capps.wbst, submitted 12 June 80

JSR Fri13
.TXT "DMT of Friday the 13th, Alto"
Fri13: STA 3 VERSION
JSR CURSOR

0
36074
37174
35134
17170
0
0
0
1100
0
170017
6060
177177

2040
174037
0
0

; by L. Clark, submitted 13 June 80

JSR Helen

.TXT "DMT - Mt. St. Helens, by LClark.PA*NAlto"

Helen: STA 3 VERSION

JSR CURSOR

0
43542
116270
71536
156563
167376
65254
11260
100702
4710
20502
3060
47771
7730
15514
22554
63176

; by Geoff Thompson, submitted 11 July 80

JSR xxx

.TXT "DMT *NAlto"

xxx: STA 3 VERSION

JSR CURSOR

0
36
365
3665
6651
6113
1130
1300
3027
25
27
0
167356
125252
167310
105252
105252

; by Ted Kaehler, submitted 10 July 80

JSR Light

.TXT "Dealing lightning: Parc's tenth anniversary*NAlto"

Light: STA 3 VERSION

JSR CURSOR

0
1
41
173
316
1606
1000
7400
4200
10100
10600
21040
41000
101040
102400
104020
110010

; by Bob Weissman, submitted 29 July 80

JSR Skull

.TXT "Cursor design by Bob Weissman*NAItto"

Skull: STA 3 VERSION

JSR CURSOR

0

1600

2100

4040

7340

4440

2500

2100

1200

4440

6140

1200

400

1200

6140

4040

0

; by T. Pettit, submitted 30 July 80

JSR Legs

.TXT "DMT of the Parc Picnic - cursor by T. Pettit*NAItto"

Legs: STA 3 VERSION

JSR CURSOR

0

7160

7160

107160

42040

37770

2656

2642

2642

2642

6660

15720

31720

21730

21714

21706

61702

; by Mike Trigoboff, submitted 9 Sept 80

JSR Leaf

.TXT "DMT of Autumn 1980 - cursor by Mike Trigoboff*NAItto"

Leaf: STA 3 VERSION

JSR CURSOR

0

1

17

63

305

411

1021

2042

4102

4204

10410

11020

12140

24600

33000

174000

140000

; by George Komorowski, submitted 11 Sept 80

JSR Grape

.TXT "The grapes of September - cursor by George Komorowski*NAItto"

Grape: STA 3 VERSION

JSR CURSOR

0

6003

76407

173706

152340
16070
33073
72353
35416
73164
67126
12076
36154
34176
72
20
0

; by David Cheng, submitted 15 Sept 80

JSR China
.TXT "China exhibit in S.F. thru 9/28 - cursor by D. Cheng *NALto "
China: STA 3 VERSION
JSR CURSOR
0
10377
10201
10201
177275
111221
111221
111221
111221
111275
177221
10225
10225
10221
10275
10201
10377

; by Aden.ES, submitted 17 Sept 80

JSR X5700
.TXT "DMT of the Xerox 5700 announcement*NALto "
X5700: STA 3 VERSION
JSR CURSOR
0
177177
100101
100002
177004
1010
1020
177040
0
0
177177
101101
101101
101101
101101
101101
177177

; by Allen Wells, submitted 9 Oct 80

JSR COL
.TXT "Columbus stops short of India -- 1492*NALto "
COL: STA 3 VERSION
JSR CURSOR
0
3760
2024
17237
31221
61721
41221
141221
101221
177037
13764

150205
177777
72527
37776
17774
7770

; by Allen Wells, submitted 18 Oct 80

JSR TAE
.TXT "Thomas Edison died -- 18 Oct 1931*NAlto "
TAE: STA 3 VERSION
JSR CURSOR
0
173131
117575
103743
141103
41102
61706
30614
17770
4160
7620
4360
7420
4760
7060
2640
3740

; by Allen Wells, submitted 18 Oct 80

JSR Hallo1
.TXT "Werewolves howl and goblins prow1 - by A. Wells*NAlto "
Hallo1: STA 3 VERSION
JSR CURSOR
0
660
370
370
1760
770
710
3600
157600
71600
16600
3600
7700
7774
17477
17037
3017

; by Capps.wbst, submitted 22 Oct 80

JSR Hallo2
.TXT "Werewolves howl and goblins prow1 - by Capps.wbst*NAlto "
Hallo2: STA 3 VERSION
JSR CURSOR
0
3540
17170
37174
76076
77176
177177
176016
176171
176147
176037
177037
76636
71636
7614
17770
3740

; by Trigoboff, submitted 21 Oct 80

JSR Hallo3

.TXT "Werewolves howl and goblins prowl - by M. Trigoboff*NAIto "

Hallo3: STA 3 VERSION

JSR CURSOR

0

0

140

300

1700

760

700

200

167700

34340

7360

1770

3740

1477

617

1406

2

; by Capps.wbst, submitted 16 Sept 80

JSR Babbage

.TXT "Charles Babbage born 26 Dec 1792*NAIto "

Babbage: STA 3 VERSION

JSR CURSOR

0

400

14620

7760

17172

77176

36074

36074

74637

175636

35714

30014

77776

57770

7760

7760

4630

200

; by Capps.wbst, submitted 16 Sept 80

JSR Turing

.TXT "A. M. Turing born 23 June 1912*NAIto "

Turing: STA 3 VERSION

JSR CURSOR

0

7740

4040

177777

4040

125656

125252

125252

125252

125656

4040

177777

4040

7740

0

0

0

; by Capps.wbst, submitted 16 Sept 80

JSR Hollerith

.TXT "Hollerith born 29 Feb 1860*NAIto "

Hollerith: STA 3 VERSION

JSR CURSOR

0

17777
37777
77777
172727
172727
177575
177575
177767
177767
173577
173577
177775
177775
176737
176737
177777

; by Komoroski.wbst, submitted 16 Sept 80

JSR AmCup
.TXT "America's Cup race*NAlto "
AmCup: STA 3 VERSION
JSR CURSOR
0
177737
177637
177637
177427
177427
177023
176023
174023
172721
162121
142721
102420
2720
177757
100000
170007

; by Allen Wells, submitted 30 Oct 80

JSR Vote
.TXT "You'll have to live with the winner for 4 years*NAlto "
Vote: STA 3 VERSION
JSR CURSOR
0
141436
141477
63163
63343
36307
36316
14374
14170
0
177576
177576
14140
14176
14140
14176
14176

; by Allen Wells, submitted 30 Oct 80

JSR Frog
.TXT "Frog hunting season starts Nov 5*NAlto "
Frog: STA 3 VERSION
JSR CURSOR
0
70
707
17673
37707
77776
77770
177777

177774
77760
77660
17037
17406
177001
174000
77600
17760

; by S. Quarterman, submitted 7 Nov 80

JSR Tank
.TXT "DMT of November 15 - Erwin Rommel's 89th birthday*NAlto "
Tank: STA 3 VERSION
JSR CURSOR
0
0
0
0
0
3700
77740
7740
37770
40004
52524
40004
37770
0
0
0
0

; by Allen Wells, submitted 19 Nov 80

JSR CT
.TXT "Americans get ready for Thanksgiving with X-mas sales*NAlto "
CT: STA 3 VERSION
JSR CURSOR
0
600
1700
1100
3340
2440
6160
5020
16230
10050
35114
20404
36074
13750
2640
600
1700

; by Allen Wells, submitted 19 Nov 80

JSR TK
.TXT "Indians help pilgrims celebrate first Thanksgiving*NAlto "
TK: STA 3 VERSION
JSR CURSOR
0
400
1200
7340
35270
25250
165256
125652
126552
130032
127752
123312
170436
54464
51624

54064
63714

; by Teri Pettit, submitted 1 Dec 80

JSR Hannuk
.TXT "DMT of the first day of Hannukah*NAItto "
Hannuk: STA 3 VERSION
JSR CURSOR
0
1
1
1
1
0
52725
52225
53765
50205
57775
40201
77777
200
200
700
3760

2nd night (Dec 3): same as above but 5 instead of 1 in lines 0-3
3rd night (Dec 4): ditto but 25
4th night (Dec 5): ditto but 125
5th night (Dec 6): ditto but 525
6th night (Dec 7): ditto but 2525
7th night (Dec 8): ditto but 12525
8th night (Dec 9): ditto but 52525

; by Allen Wells, submitted 10 Dec 80

JSR Winter
.TXT "Winter begins - cursor by A. Wells*NAItto "
Winter: STA 3 VERSION
JSR CURSOR
0
0
7160
10010
12650
0
5120
51112
100601
127165
100601
51112
5120
0
12650
10010
7160

; by Craig Everhart, on 11 June 1980

JSR PIESky
.TXT "Personal Integrated Environment in the Sky*NAItto "
PIESky: STA 3 VERSION
JSR CURSOR
0
0
36
141
603
1002
2616
4312
10012
12072
22042
22142
40304

41610
41020
57740
30000

; by Craig Everhart, on 25 March 1981

```
JSR Squeaky
.TXT "The Squeaking Wheel gets the Vax*NAItto "
Squeaky: STA 3 VERSION
JSR CURSOR
0
760
3114
3114
4522
4342
7776
4342
4522
3114
3114
760
167356
104210
167356
104210
167356
```

; by Jim Gasbarro, 2 April 1981

```
JSR Tulip
.TXT "DMT of Spring 1981*NAItto "
Tulip: STA 3 VERSION
JSR CURSOR
0
6140 ; cursor bitmap begins here
6540
6540
6540
3700
3700
1607
415
431
160421
130462
114442
146544
63710
35730
7740
```

; by Craig Everhart, '7 June 1981

```
JSR NebNose
.TXT "DMT of 'If The Privilege Tempts, Give It Up' week*NAItto "
NebNose: STA 3 VERSION
JSR CURSOR
0
140 ; cursor bitmap begins here
300
600
1400
3000
6000
14000
30000
60170 ; or 60120
140004
100002
100002
116002 ; or 112002
61602 ; or 61202
30174
7600 ; or 5200
```

; by Keith Marzullo, submitted December 10, 1980 10:55 AM

```
jsr Fri13
.TXT "DMT of Dead Week, Alto"
Fri13: STA 3 VERSION
JSR CURSOR
0
0
1740
2020
4210
4210
5750
4210
4210
4210
24010
44012
146511
44212
54416
177777
177777
```

; by Craig Everhart, 20 July 1981

```
JSR WeddingNight
.TXT "DMT of the Royal Wedding Night*NAlto "
WeddingNight: STA 3 VERSION
JSR CURSOR
0
20000 ; cursor bitmap begins here
10000
5400
3600
7600
6740
770
30774
75776
157476
177737
37777
177747
36746
34704
16344
```

; by Craig Everhart, 17 August 1981, plagiarized from Sat2, below

```
JSR Sat3
.TXT "DMT of the Voyager 2 Saturn fly-by, 25 August 1981*NAlto "
Sat3: STA 3 VERSION
JSR CURSOR
0
3 ; cursor bitmap begins here
17
1722
7766
17754
17730
37664
37564
37354
36734
15670
33570
46360
55700
170000
140000
```

; by solomon, 15 Sept 1981

```
JSR pig
```

```
.TXT "DMT of International CONE PIG Week, 15 Sept. 1981*NAItto "
pig: STA 3 VERSION
      JSR CURSOR
      0
      000606          ; cursor bitmap begins here
      003145
      014431
      025246
      026144
      044042
      111221
      120011
      120411
      052122
      051622
      026144
      021604
      014030
      003740
      001100
```

; by Dave Solomon, 23 September 1981

```
      JSR pac
      .TXT "DMT of International PACMAN week 23 Sept. 1981*NAItto "
pac: STA 3 VERSION
      JSR CURSOR
      0
      003740          ; cursor bitmap begins here
      004020
      010010
      020004
      020004
      040002
      057172
      117171
      111111
      100001
      100001
      100001
      100001
      100001
      114631
      063146
```

; by Joe Newcomer, 1980

```
      JSR GOP
      .TXT "Floundering about in Alto "
GOP: STA 3 VERSION
      JSR CURSOR
      0
      100360
      140410
      121004
      112052
      104402
      103001
      100512
      104062
      112004
      121010
      140760
      100000
      000000
      000000
      000000
      000000
```

```
      JSR SADIE
      .TXT "DMT of Sadie Hawkins Day, February 29th, 1980, Alto "
SADIE: STA 3 VERSION
       JSR CURSOR
       0
       377
       377
```

17
37
3073
17763
34743
60143
60140
140060
140060
60140
60140
34700
17600
3000

JSR NHP
NHP: .TXT "DMT of the New Hampshire Primary, February 26th, 1980, Alto "
STA 3 VERSION
JSR CURSOR
0
112214
152234
152234
133634
132234
112274
112274
174
167174
125376
165376
125376
167377
377
776
360

JSR FDS
FDS: .TXT "DMT of the First Day of Spring, '80, Alto "
STA 3 VERSION
JSR CURSOR
0
000200
011244
015354
046630
033164
051512
122324
056556
035264
012720
102603
160617
170636
074636
036674
017760

JSR TITAN
TITAN: .TXT "68th Anniversary of the TITANIC sinking, April 15th, 1912, Alto "
STA 3 VERSION
JSR CURSOR
0
005000
000240
000000
000124
030300
064625
143460
111145
104714
142231
061163
030446

014234
006110
003464
001356

JSR GOP
GOP: .TXT "1980 Republican National Convention, Detroit, Alto "
STA 3 VERSION
JSR CURSOR
0
000000
017740
037760
056730
125250
156730
177774
000004
177764
177764
177764
170365
170362
170360
000000
000000

; by Craig Everhart, 28 September 1981

JSR xDMTx
xDMTx: .TXT "DMT of the Diagnostic Memory Test*NAIto "
STA 3 VERSION
JSR CURSOR
0
1000 ; cursor bitmap begins here
1200
1200
1200
1200
3200
6200
14200
31200
1300
1140
1074
3000
2200
6300
34170